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QUANTIFYING THE ECONOMIC IMPACT OF PENSION AGE CHANGES IN MALTA

BOX 3: QUANTIFYING THE ECONOMIC IMPACT OF PENSION AGE CHANGES IN MALTA[1]

After remaining unchanged for several decades, the pension age in Malta started to rise in 2012. This process will continue till 2026 and will impact thousands, contributing to boost the workforce and partially countervailing the impact of the ageing transition. Understanding the potential impact of pension age changes on potential output is therefore very important for policymakers.

### The change in the pension age in Malta

In 1948, the Old Age Pensions Act introduced a means-tested pension for elderly persons. This was followed by a comprehensive scheme of social insurance in 1956, and then an earnings-related pension scheme in 1979. While the latter improved system generosity, the age at which pensions started being paid remained unchanged: namely 61 years for men and 60 years for women. This changed with Act No XIX of 2006 which included provisions to gradually raise the pension age for both genders to 65. As a result of this reform, the pension age rose to 62 for those born between 1952 and 1955, to 63 for those born between 1956 and 1958, to 64 for those born between 1959 and 1961 and to 65 for those born from 1962 onwards. This means that women who were due to receive a pension at age 60 in 2012 instead had to wait until they reached age 62 in 2014. Similarly men who were due to become beneficiaries in 2013 had to wait until 2014 to receive their pension. The next rise in pension age will impact those who would reach age 62 in 2018, and instead will have to wait till 2019 to receive their pension. The next year when in theory there will be no new pension recipients will be 2022, when the pension age will rise to 64, followed by the final rise to age 65 in 2026.

Besides introducing the rise in pension age gradually, the reform stipulated that under certain conditions individuals could still receive a state pension at age 61. Those born between 1952 and 1961 need to have 35 years of contributions, whilst those born between 1962 and 1968 require 40 years. The amount of contributions required to be able to receive a pension at age 61 has been increased to 41 years for those born after 1968 as part of a reform package announced in the Budget for 2016. The latter also introduced enhanced pensions for those who opt to continue working after age 61 even though they already qualify for their pension. Those who opt to receive their pension at 61 are precluded from working until they reach the pension age set for their birth cohort. After they reach pension age, individuals are allowed to receive their state pension while also being in employment.

Under the standard Eurostat definition, i.e. all those aged between 15 and 64, Malta's working age population is expected to fall by 3.3% to just over 275,000 during the next decade. However this definition ignores the pension age set in Malta. Chart 1 shows that on the basis of the pre-reform pension age, Malta's working age population in 2013 was circa 18,000 (or 6.4%) less than the amount implied by the standard definition. Over the coming

decade, Eurostat population projections imply a fall to just over 251,000. Conversely, if one takes into account the gradual rise in pension age, the working age population is forecast to increase over the same period, by over 6,000 (or 2.3%) to nearly 275,500. The first increase in the pension age boosted the effective working age population by 3.3%. The second rise, in 2018 should add a further 2.5%, followed by

Chart 1
TRENDS IN WORKING AGE POPULATION – DIFFERENT DEFINITIONS
(number of persons)

Source: Author's calculations using data from Eurostat's Europop 2013 projections.

another 2.3% boost in 2022, and a final upward contribution of 1.5% in 2026. By the time pension age will have reached 65, the effective working age population should be 9.6% higher, or about 24,000 more, than if the pension age had remained at 61 for men and 60 for women.
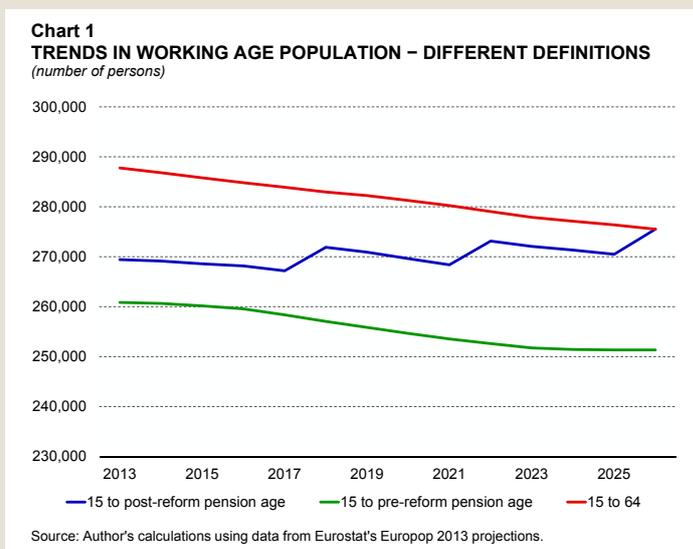
The impact of the first changes in pension age

The fact that the number of persons potentially available for work should rise instead of fall as a result of the pension age changes does not necessarily mean that all of these individuals will remain in employment. Employment rates decline markedly with age. For instance while about 92% of men aged 45-49 were employed in 2015 according to LFS data, only 89% of the adjacent age cohort (ie those aged 50 to 54) worked. The cohort closest to pension age (those aged 55 to 59) had an employment rate of 83%. While being able to draw a state pension affects greatly labour market choices (the employment rate was 33% for the cohort straddling the current pension age – 60-64), it is not the sole determinant. Health conditions, care responsibilities, the availability of other social benefits and reliance on savings also play a key role.

Asessing how the boost in the effective working age population brought by the pension age change could translate into higher employment is particularly difficult as this policy is unprecedented in Malta. Existing international literature suggests that between 20% to 50% of those affected by a pension age rise remain in employment.[2] These estimates can be compared with actual labour market performance in Malta during the years around the first pension age increase. It is important to note that this period was characterised by rather buoyant economic activity, significant reductions in the tax burden on labour and the introduction of several active labour market policies. All of these factors may have boosted the probability of those affected by the pension age change to continue working.
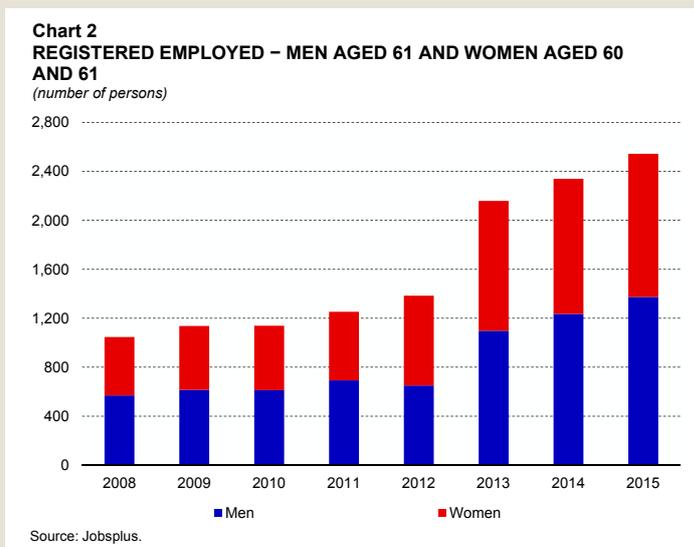
[2] For the impact in the US, see Mastrobuoni, G. (2009), Labour supply effects of the recent Social Security benefit cuts: empirical estimates using cohort discontinuities, *Journal of Public Economics*, 93(11-12): 1224-33. For the impact in the UK, see Cribb, J., Emmerson, C. & Tetlow, G. (2014), Incentives, shocks or signals: labour supply effects of increasing the femal state pension age in the UK, *Institute for Fiscal Studies Working Paper W13/13*.

LFS data indicate that whereas the number of men aged 60 to 64 who were in employment rose from 3,700 to 3,900 between 2010 and 2012, in 2013 there was an increase to 4,500, rising to 4,700 in 2015. Similarly while in previous years, the number of women aged 60 to 64 who remained in employment had declined slightly from 900 in 2010 to 800 in 2012, in 2013 it rose to 1,200, increasing further to 2,000 in 2015. The employment rate of this age group rose from 26% in 2012 to 33% in 2015 amongst men, and from 5% to 14% amongst women. Men aged 60 to 64 accounted for over a sixth of the total increase in male employment between 2012 and 2015, while women in the same age category accounted for more than an eighth of the rise in female employment.
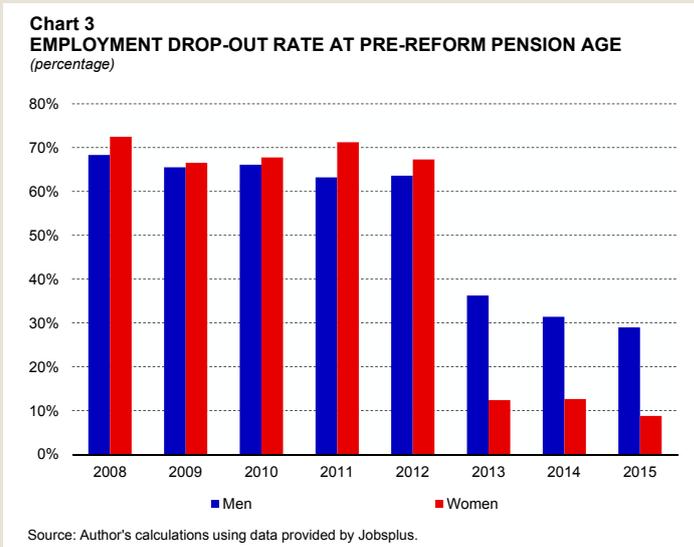
At such level of detail, LFS data may suffer from significant margins of error. Thus, in order to further verify that the rise in pension age was accompanied by a lengthening of working lives, these data were compared with those of the national employment register by single year of age. These data (shown in Chart 2) indicate that employment in the affected ages (males aged 61 and females aged 60 and 61) rose in the three years after the change. There was an increase of over 720 amongst males and of nearly 440 amongst women, in turn accounting for 8% of the total rise in male employment and 4% of that in female employment. This is smaller than the impact suggested by the LFS, which could be in part explained by the fact that the latter source also captures part-time employment.

Eurostat data on the number of pension beneficiaries in Malta show that in the year when the pension age rose there was an increase in total pension beneficiaries of close to 550, compared to increases of 1,850 beneficiaries in adjacent years. Similarly the Annual Reports of the Ministry for the Family and Social Solidarity indicate that new pension claims fell to 1,700 from about 3,000 in normal years. Thus employment and social security administrative data suggest that as a result of the rise in the pension age to 62, dependence on benefits fell by about 1,400.

National employment register data indicate that in the last ten years between ages 50 to 59 each cohort had a drop-out rate from employment of 2% per year. Thus for instance, while there were 2,511 men aged 50 who were in employment in 2005, by 2015 there were 1,966 men aged 60. Assuming no migration and mortality affected this cohort, a fifth of the cohort aged 50 and in employment in 2005 dropped out of employment by the time they reached age 60 in 2015. Reaching pension

Chart 2
REGISTERED EMPLOYED − MEN AGED 61 AND WOMEN AGED 60 AND 61
(number of persons)

Source: Jobsplus.

age leads to a spike in the employment drop-out rate (see Chart 3). Amongst women, on average, 69% used to leave employment upon reaching pension age. Once the pension age rose to 61, the employment drop-out rate fell to 12%. The improvement in the drop-out rate for men was less pronounced, initially from 65% to 36%. This probably reflects the fact that men are likelier

Chart 3
EMPLOYMENT DROP-OUT RATE AT PRE-REFORM PENSION AGE
(percentage)

Source: Author's calculations using data provided by Jobsplus.

than women to have the amount of contribution years necessary to be able to draw a full pension at age 61. Aggregating across genders, whereas prior to the shift to a higher pension age there used to be an employment drop-out rate of 64%, this has now fallen to 25%. The rise in pension age to 61 led about 60% of those who used to exit the labour market at that age to instead continue working. This is close to the upper part of the range of estimates found in international studies.

Grech & Micallef (2015) indicate that after falling significantly in 2009, the Maltese economy's potential growth rate doubled in subsequent years, driven by improvements in the potential labour supply.[3] The analysis above shows that the rise in pension age led to an upward increase in employment of around 1,100, equivalent to an increase of 0.6% of the potential labour supply. Using the labour input coefficient used in Grech & Micallef (2015), this equates to a positive contribution of 0.3 percentage point to potential output, or around a tenth of potential output growth.

The possible impact of the remaining changes in pension age
To assess the impact of the remaining changes in pension age by 2026, one needs to make a number of assumptions on the future reaction of employees to changes in pension ages. The data shown in Chart 3 suggest that it is highly unlikely that over time, the employment drop-out rate for women could improve further. This rate is very low, and has remained stable. On the other hand, the employment drop-out rate for men is still significant, and has shown signs of declining since 2013. The recent introduction of financial incentives to retire later could also help change behaviour further. In this light, the employment drop-out rate for men at the new pension age is assumed to improve in line with the change seen since 2013 until it reaches that for women. When there are further increases in the pension age, drop-out rates are assumed to react similarly to what happened after the rise to age 61. Therefore initially 60% of those who would have stopped working instead opt to work
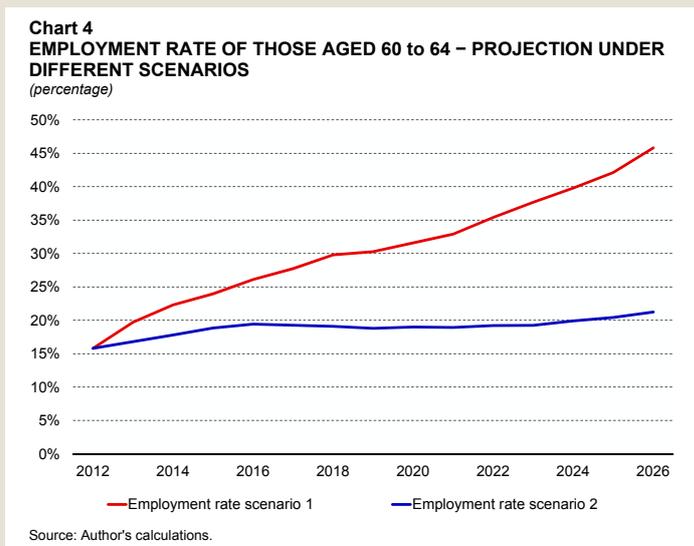
3   Grech, A.G. & Micallef, B. (2015), Assessing potential output growth of the Maltese economy using a production function approach, *Xjenza*, 3(1): 57-63.

another year to reach the new pension age. Men are then assumed to gradually adjust to women's employment drop-out rate.

To project employment forward, a cohort projection approach was applied to employment data by single year of age from the national employment register. Basically the current employment drop-out rates are applied to the amount of individuals currently in employment. For instance, there were nearly 2,100 men aged 59 who were in employment in 2015. Using the current employment drop-out rate between ages 59 and 60, i.e. 4%, this approach projects that in 2016 there should be 2,016 men aged 60 in employment, and so on.

Chart 4 compares the projected employment rate of those aged 60 to 64 with a baseline projection that assumes no rise in the pension age. Under the latter scenario, there is a gradual improvement in the employment rate from 15.8% in 2012 to 21.2% in 2026. This reflects the underlying trend increase in employment among women. Even if one assumes no behavioural changes, i.e. if employment drop-out rates remain the same, the fact that younger women tend to be more in employment than older cohorts causes the overall employment rate to improve over time. The assumption that employment drop-out rates will improve as a result of pension age changes greatly amplifies the rise in the employment rate of those aged 60 to 64. The first rise – that to a pension age of 61 – has already boosted the employment rate of this age category by 5 percentage points (implying an employment rate a quarter higher than it would have been if pension age had not risen). By 2026, under the assumptions made that the remaining increases in pension age will have the same relative impact as the first increase, the employment rate of those aged 60 to 64 would nearly double to 46% in 2026.

While this improvement may seem quite pronounced, the projected employment rate for those aged 60-64 in 2026 is significantly lower than the employment rate of 55% that characterises those aged 55-59 at present. Countries that already have a pension age of 65 also tend to have similar employment rates for those aged 60-64. For instance, in Germany the employment rate for this age bracket is 53%, in Sweden it stands at 66% while in the UK, Denmark and the Netherlands 48% of those aged 60-64 were in employment. Furthermore European Commission (2014) indicates,

Chart 4
EMPLOYMENT RATE OF THOSE AGED 60 to 64 − PROJECTION UNDER DIFFERENT SCENARIOS
(percentage)

Source: Author's calculations.

using a similar approach to the one taken here, that by 2020 the pension reform should boost the employment rate of those aged 55 to 64 in Malta by 4.7 percentage points and by 10.8 percentage points by 2040.[4]

On the basis of the assumptions described above, the gradual increase of the pension age to 65 should boost employment by over 7,200 by 2026. About 56% of this increase should be among men. On average, in the four years with a rise in the pension age (2013, 2018, 2022 and 2026), employment is projected to rise by over 800 compared to the baseline of no change in the pension age. In intervening years, when the employment drop-out rate gradually adjusts, the average rise is less than half this amount. On the basis of the projected labour supply for Malta published by the European Commission in the latest Ageing Report, this implies that by 2026 the gradual rise of the pension age to 65 could result in an upward shift of 3.6%.[5] This higher labour input would translate in a 2.1% boost in the level of potential output. In years where there is an increase in the pension age, potential output growth is estimated to be boosted, on average, by 0.2 percentage point. In intervening years, the gradual adjustment in employment rates would raise potential growth by 0.1 percentage points, on average.

These projections compare well with those of international studies. Karam, Muir, Pereira & Tuladhar (2010), using the IMF's Global Integrated Monetary and Fiscal model, suggest that raising the retirement age by 2 years would raise GDP by almost 1 percent in the short to medium term.[6] Barell, Kirby & Orazgani (2011) in a study on the UK argue that a one year extension of working lives increases GDP by one percent about six years after its implementation.[7] They also find that had the UK kept its pension age at 60 for women and 65 for men, between 2010 and 2030 growth would on average have been 0.3 percent lower.

Besides increasing the labour supply and potential output, a higher pension age also impacts on government spending and revenue. Pension generosity data and projections from Pensions Strategy Group (2015) were used to compute the effect on outlays of the gradual increase in the eligibility age, while the impact on revenue was estimated by applying current implicit tax rates on labour income and on consumption on the projected income of those who continue working as a result of the pension age changes.[8] Taken together, the lower spending and the higher revenue are estimated to have improved the deficit to GDP ratio by 0.2 percentage point in 2013 and 2014. This estimate is identical to that presented in recent draft budgets by the Ministry for Finance.[9] Going forward, the impact of the pension age changes on the deficit to GDP ratio is projected to gradually rise to reach 1.0 percentage point by 2026.

[4] European Commission (2014), The 2015 Ageing Report: underlying assumptions and projection methodologies.
[5] European Commission (2015), The 2015 Ageing Report: Economic and budgetary projections for the 28 EU Member States (2012-60).
[6] Karam, P., Muir, D., Pereira, J. & Tuladhar, A. (2010), Macroeconomic effects of public pension reforms, *International Monetary Fund Working Paper* WP/10/297.
[7] Barell, R., Kirby, S. & Orazgani, A. (2011), The macroeconomic impact from extending working lives, *Department for Work and Pensions Working Paper* No. 95.
[8] Pensions Strategy Group (2015), A strategy for an adequate and sustainable Maltese pension system.
[9] See Ministry for Finance (2014), Malta: Draft budgetary plan 2015.

Since by that year the absence of this policy would have increased public debt by 7.7% of GDP, government would possibly have had to address this burden either by gradually cutting spending or by raising taxes. Using the Central Bank of Malta's macro-econometric model, we estimated the impact on potential GDP of having to either raise direct tax revenue or cut public investment gradually by 1.0 percentage point of GDP by 2026.[10] These policies would lower the level of potential GDP by between 0.3 to 0.4 percentage point. This indicates that besides the direct positive impact on potential GDP arising from an increased labour supply, the gradual rise in the pension age also has the benefit of reducing the need to raise taxes or cut spending to address the ageing transition, and hence indirectly boosts potential output even further.

It is important to emphasise that the results presented here (summarised in Table 1) assume that the employment drop-out rate at age 61 continues to improve over time, and that future increases in the pension age have the same effect as that observed when the pension age rose to 61. If, on the other hand, the effective retirement age does not continue to improve, the economic and fiscal benefits of the gradual increase in pension age to 65 could be substantially lower. Thus it is very important that Government continues to enact measures to incentivise the lengthening of working lives.

Table 1

**IMPACT OF KEEPING THE PENSION AGE AT 61/60 (2013 to 2026) −
CUMULATIVE EFFECT ON LEVELS**

	Population 15 to pension age	Potential labour supply	Potential output	Public debt (% of GDP)
2013	-3.3%	-0.6%	-0.3%	0.2%
2014	-3.3%	-0.7%	-0.4%	0.4%
2015	-3.2%	-0.7%	-0.4%	0.7%
2016	-3.3%	-0.9%	-0.5%	1.0%
2017	-3.4%	-1.2%	-0.7%	1.4%
2018	-5.8%	-1.6%	-0.9%	1.8%
2019	-5.9%	-1.8%	-1.0%	2.4%
2020	-5.9%	-1.9%	-1.1%	2.9%
2021	-5.8%	-2.2%	-1.2%	3.6%
2022	-8.1%	-2.5%	-1.4%	4.3%
2023	-8.1%	-2.8%	-1.6%	5.1%
2024	-7.9%	-2.9%	-1.7%	5.9%
2025	-7.6%	-3.2%	-1.9%	6.7%
2026	-9.6%	-3.6%	-2.1%	7.7%

Note: This table shows the estimated cumulative difference in percentage points to the different variables had pension age remained unchanged. For instance, if pension age had stayed at 61 for men and 60 for women, the number of people aged 15 to pension age would have been 8.1% lower in 2022 compared to the projected number of people aged 15 to 64 (the pension age in 2022). Similarly, assuming away the impact that the rise in pension age could have on the participation rate of those aged 60 to 64, the potential labour supply in 2022 could be 2.5% smaller and this would reduce potential output by 1.4%. Finally if individuals retain their pre-reform labour market behaviour, by 2022 the national debt would be 4.3% of GDP higher. Note that to calculate the impact of the policy on the fiscal deficit, one needs to subtract the public debt of two adjoining years (e.g. in 2026, the impact is 1.0% of GDP).

Source: Author's calculations.

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[10] Grech, O. & Rapa, N. (2016), STREAM: A structural macro-econometric model of the Maltese economy, *Central Bank of Malta Working Paper* WP/01/16.